# EBIO 202: Introductory Biology II

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**Course Website:** https://owlspace-ccm.rice.edu/portal/site/EBIO-202-S01-Sp17

**Overview**
This is the second in a series of two introductory biology courses (BIOC 201, EBIO 202). In EBIO 202 you will study the variety of life that makes up this planet; you will learn about various species, their classification, functions, how they came into existence, and their interactions with each other and their environments. You will learn how evolution is central to a complete understanding of modern biology, and will be introduced to the science of ecology and its various sub-disciplines including population ecology, community ecology, and ecosystem ecology. You will learn how a comparative approach offers insight into human anatomy and physiology. We will also touch on conservation biology and restorative ecology. Group discussions will allow students to explore these topics in more detail and discover how they are relevant to our everyday lives.

**Student Learning Objectives**
By the end of this course, students will be expected to: (1) demonstrate a working knowledge of basic facts in the fields of ecology, evolutionary biology, biological diversity, and animal physiology; (2) demonstrate the ability to apply critical thinking and problem solving skills to evaluate published and proposed research in the biological sciences; and (3) demonstrate an understanding of the modern scientific method. Additionally, I hope that students will (1) identify and reconsider any pre-conceived notions they may have had regarding ecology and evolutionary biology, and (2) gain a new perspective on humans, our evolutionary origins, and our relationship to the natural world.

**Required Course Materials**
1) Campbell et al. (2013) *Biology* 10th ed., Pearson, San Francisco.
2) i>clicker remote

**Class Meetings (MWF 9 – 9:50 am in Brockman 101)**
Most class meetings will involve a combination of lectures, videos, and interactive activities (e.g. involving the use of the i>clicker remote). Class meetings will build on assigned readings and in many cases will cover material that is not covered in the textbook. **Students are expected to come to lecture with a working understanding of the assigned reading material**. Unless told otherwise, students are responsible for all material covered in lecture.

**Participation**
Class meetings will include multiple choice questions that students will be expected to answer with the use of an i>clicker remote registered to their name. Although grades will not be based on which answer is selected, students who select an answer to at least 80% of all questions throughout the semester will earn full participation points for the course.

**Quizzes**
Quizzes will be available online on the course website at 5 pm on the day prior to each lecture (with the exception of the first 3 lectures) and must be completed by 8 am on the day of the lecture. Quizzes will consist of 10 multiple choice questions (worth 1/2 point per question) that cover material presented in the preceding class plus knowledge gained by assigned reading material for the upcoming class. Once you have begun a quiz you will have 30 minutes to complete it. ***All quizzes are open-book, open-notes, closed-internet and no other aid except book/notes.***

**Exams**
There will be two midterm exams during the semester plus a 3-hour final exam. All exams are cumulative. Midterm exams will be taken online via the course website during the designated exam time only (note that these are in the evening). ***Exams are closed-book, closed-notes, and closed-internet***. You may take the exam on any computer with internet access at a location of your choosing, but you may not receive any outside assistance (including from classmates or other students) while taking the exam. During exams, the instructor and/or TA will be available for questions via an online chat interface. No make-up exams will be offered except for university-sponsored activities that are beyond the control of the student (e.g. varsity sporting events).

**Discussion Sessions**
Students will be assigned to a discussion session that will meet during class time eight times over the course of the semester (see schedule below). Participation in all discussion sessions is required for a passing grade. Grades for discussion sessions are broken down as follows: Preparation Forms (30 points), Participation (28 points), Oral Summary (2 points), Write-up (12 points), Presentation (12 points); more details on how discussion sessions are graded will be given by your group leader during the first discussion session.

**Evaluation**
Quizzes: 28 quizzes x 5 points each = 140 points
Exams: 2 exams x 100 points each = 200 points
Discussion Sessions: (see breakdown above) = 84 points
Lecture Participation: 70 points (answer 80% of clicker questions throughout semester)
Pre-test: 6 points (based on completion only; answer all questions to receive full credit)
Total points possible = 500

The minimum point thresholds for each course letter grade are given below:

| Letter Grade: | D– | D | D+ | C– | C | C+ | B– | B | B+ | A– | A | A+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Points Needed: | 300 | 315 | 340 | 350 | 365 | 390 | 400 | 415 | 440 | 450 | 465 | 490 |

**Honor Code**
All quizzes and exams will be administered online via the course website. All quizzes are open-book, open-notes, closed-internet and no other aid except book/notes. Exams are closed-book, closed-notes, and closed-internet. Students are NOT allowed to work together on exams or quizzes. Any indication of a violation of this policy will result in an Honor Council investigation.

**Disabilities**
If you have a disability that will impact your coursework, please speak with me during the first two weeks of class. All discussions remain confidential. Additionally, you must contact Disability Support Services (http://dss.rice.edu/) located in the Allen Center, Room 111.

**Course Schedule**

| Day | Date | Topic | Quiz # | Pgs in Campbell, 10th ed. |
|---|---|---|---|---|
| M | 9-Jan | Course Intro; Why evolution matters | | 1-24 |
| W | 11-Jan | History of Evolutionary Thought | | 461-470 |
| F | 13-Jan | Evidence for evolution | Pre-Test | 471-478 |
| M | 16-Jan | **MLK Day -- No Class** | | |
| W | 18-Jan | Mechanisms of evolution I: Microevolution | 1 | 480-498 |
| F | 20-Jan | Mechanisms of evolution II: Macroevolution | 2 | 500-516 |
| M | 23-Jan | Reconstructing evolutionary history | 3 | 546-564 |
| W | 25-Jan | * In-Class Discussion Sessions 1 * | | |
| F | 27-Jan | The Origin and History of Life | 4 | 519-543; 669-673 |
| M | 30-Jan | Microbial diversity | 5 | 562-564; 567-585 |
| W | 1-Feb | Protists | 6 | 587-609 |
| F | 3-Feb | Plant Diversity | 7 | 612-628; 630-646 |
| M | 6-Feb | Fungi | 8 | 648-665 |
| W | 8-Feb | * In-Class Discussion Sessions 2 * | | |
| F | 10-Feb | **Spring Recess – No Class** | | |
| M | 13-Feb | Invertebrates | 9 | 667-669; 673-704; 707-709 |
| W | 15-Feb | Insects | 10 | 704-707 |
| F | 17-Feb | Vertebrates I | 11 | 712-725 |
| M | 20-Feb | Vertebrates II | 12 | 726-739 |
| W | 22-Feb | * In-Class Discussion Sessions 3 * | | |
| Th | 23-Feb | **Midterm Exam** | | |
| F | 24-Feb | Primates and Human Evolution | 13 | 740-748 |
| M | 27-Feb | Feeding, nutrition, digestion, metabolism | 14 | 866-912 |
| W | 1-Mar | Circulation and Gas Exchange | 15 | 915-943 |
| F | 3-Mar | Immune System | 16 | 946-968 |
| M | 6-Mar | Osmoregulation and Excretion | 17 | 971-990 |
| W | 8-Mar | * In-Class Discussion Sessions 4 * | | |
| F | 10-Mar | Endocrine System | 18 | 993-1010 |
| M | 13-Mar | **Spring Break - No Class** | | |
| W | 15-Mar | **Spring Break - No Class** | | |
| F | 17-Mar | **Spring Break - No Class** | | |
| M | 20-Mar | Reproduction | 19 | 1013-1034 |
| W | 22-Mar | * In-Class Discussion Sessions 5 * | | |
| F | 24-Mar | Nervous System | 20 | 1061-1076 |
| M | 27-Mar | Sensory Systems | 21 | 541-542; 1101-1130 |
| W | 29-Mar | * In-Class Discussion Sessions 6 * | | |
| F | 31-Mar | Animal Behavior | 22 | 1133-1154 |
| M | 3-Apr | Ecology and the Biosphere | 23 | 1157-1181 |

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|---|---|---|---|---|
| W | 5-Apr | * In-Class Discussion Sessions 7 * | | |
| F | 7-Apr | Population Ecology | 24 | 1184-1205 |
| M | 10-Apr | Community Ecology I | 25 | 1208-1215 |
| W | 12-Apr | Community Ecology II | 26 | 1216-1229 |
| F | 14-Apr | Ecosystems | 27 | 1232-1251 |
| M | 17-Apr | Conservation Biology | 28 | 1256-1277 |
| W | 19-Apr | * In-Class Discussion Sessions 8 * | | |
| F | 21-Apr | Wrap up and Review for final exam | | |
| | TBD | **Final Exam** | | |

**Final Exam: During scheduled final exam period (TBA)**